39. A method for producing a semiconductor device comprising:

a first step of forming an electrically insulating layer on a wafer with a part of a circuit electrode, provided on said wafer, remaining exposed from said electrically insulating layer by printing an electrically insulating material including particles therein by use of a mask, said electrically insulating layer having an inclined portion at an edge thereof and functioning to relax occurrence of stress between said semiconductor device and a circuit board on which the semiconductor device is to be mounted;

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extending ?

a second step of forming a wiring over an area from said circuit electrode of said wafer to said inclined portion and a flat portion of said electrically insulating layer; and 2.

a third step of forming an external connection terminal on said electrically insulating layer, said external connection terminal being electrically connected with said circuit electrode through said wiring.

40. A method for producing a semiconductor device according to claim 39,

wherein, in said first step, said electrically insulating layer on a wafer is formed by printing a paste-like polyimide material.

41. A method for producing a semiconductor device according to claim 39,

particles in the insulating material ?

wherein said particles are made of same material as said electrically insulating material which forms the electrically insulating layer.

112, are the electrically insulating layer and electrically insulating material the same ?. (same layer)

42. A method for producing a semiconductor device according to claim 39,

wherein, in said first step, said particles are diffused in said electrically insulating material so that the forming of said electrically insulating layer is controlled.

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43. A method for producing a semiconductor device according to claim 39,

wherein said particles have a diameter of less than 10 micrometers each.

44. A method for producing a semiconductor device according to claim 39,

wherein said first step further comprises a step of forming a protrusive portion in a vicinity of a boundary between the inclined portion of said electrically insulating layer and a flat portion of said electrically insulating layer having an approximately uniform thickness, said protrusive portion being disposed over a part of said flat portion.

45. A method for producing a semiconductor device according to claim 39,

wherein, in said first step, said electrically insulating layer is formed with a thickness in a range of from 35 to 150 micrometers.

46. A method for producing a semiconductor device according to claim 39,

wherein, in said first step, said electrically insulating layer is formed with a thickness in a range of from 1/20 to 1/5 as large as the thickness of said semiconductor device 1/2 Vague

47. A method for producing a semiconductor device according to claim 39,

wherein, in said first step, said electrically insulating layer is formed with an inclined portion thereof at a gradient in a range of from 5% to 30% with respect to a principal surface of said semiconductor device on which said circuit electrode is provided.

48. A method for producing a semiconductor device according to claim 39,

wherein, in said first step, said electrically insulating layer is formed by use of said electrically insulating material, and wherein a glass transition temperature of said electrically insulating material is in a range of from 150°C to 400°C.

how are the 2 layers of material separate?

49. A method for producing a semiconductor device according to claim 39,

wherein, in said first step, said electrically insulating layer is formed how? by use of said electrically insulating material, and wherein a heat degradation temperature of said electrically insulating material is in a range of from 300°C to 450°C.

50. A method for producing a semiconductor device according to claim 39,

wherein, in said first step, a squeegee is moved over an opposite vertex of an opening portion in said mask so that said electrically insulating layer is formed by printing.

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51. A method for producing a semiconductor device according to claim 39,

wherein, in the first step, said mask and said wafer are aligned with each other, a squeegee is moved on said mask to fill resin into an opening portion of a mask pattern and, thereafter, said mask is detached from said wafer so that said electrically insulating layer is formed.

52. A method for producing a semiconductor device according to claim 39,

wherein, in said first step, said electrically insulating layer is formed by printing by use of said mask having an opening portion smaller than a region covered by said electrically insulating layer. how can the mask opening be smaller than the pattern formed? - should be vice-versa

53. A method for producing a semiconductor device comprising:

a first step of forming an electrically insulating layer on a wafer with a part of a circuit electrode, Or? provided on said wafer, Or? remaining exposed from said electrically insulating layer by printing an electrically insulating material including particles therein by use of a mask, said electrically insulating layer having an

what is exposed? the electrode or wafer?

Is the insulating material the insulating layer

inclined portion at an edge thereof and having a thickness in a range of from 35 to 150 micrometers;

a second step of forming a wiring over an area extending from said circuit electrode of the wafer to said inclined portion and a flat portion of said electrically insulating layer; and b.th?

a third step of forming an external connection terminal on said electrically insulating layer, said external connection terminal being electrically connected with said circuit electrode through said wiring.

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54. A method for producing a semiconductor device according to claim 53,

wherein, in said first step, said electrically insulating layer is formed by printing a paste-like polyimide material.

55. A method for producing a semiconductor device according to claim 53,

wherein said particles, in said first step, are made of same material as said electrically insulating material which forms said electrically insulating layer.

56. A method for producing a semiconductor device according to claim 53,

wherein, in said first step, said particles are diffused in the electrically insulating layer so that forming of the electrically insulating layer is controlled.

57. A method for producing a semiconductor device according to claim 53,

wherein said particles have a diameter of less than 10 micrometers each.

58. A method for producing a semiconductor device according to claim 53,

B1 Con't

wherein said first step further comprises a step of forming a protrusive portion in vicinity of a boundary between the inclined portion of said electrically insulating layer and a flat portion of said electrically insulating layer having an approximately uniform thickness, said protrusive portion being disposed over a part of said flat portion.

59. A method for producing a semiconductor device according to claim 53,

wherein, in said first step, said electrically insulating layer is formed with an inclined portion thereof at a gradient in a range of from 5% to 30% with respect to a principal surface of said semiconductor device on which said circuit electrode is provided.

60. A method for producing a semiconductor device according to claim 53,

wherein, in said first step, said electrically insulating layer is formed by use of said electrically insulating material, and wherein a glass transition

temperature of said electrically insulating material is in a range of from 150°C to 400°C.

61. A method for producing a semiconductor device according to claim 53,

how? wherein, in said first step, said electrically insulating layer is formed by use of said electrically insulating material, and wherein a degradation temperature of said electrically insulating material is in a range of from 300°C to 450°C.

does it mean the insulating layer is made of the insulating material?

B' Cont

62. A method for producing a semiconductor device according to claim 53,

wherein, in said first step, a squeegee is moved over an opposite vertex of an opening portion in said mask so that said electrically insulating layer is formed by printing. ?

63. A method for producing a semiconductor device according to claim 53,

wherein, in said first step, said mask and said wafer are aligned with each other, a squeegee is moved on the mask to fill resin into an opening portion of a mask pattern and, thereafter, said mask is detached from said wafer so that said electrically insulating layer is formed.

64. A method for producing a semiconductor device according to claim 53,

wherein, in said first step, said electrically insulating layer is formed by printing by use of said mask having an opening portion smaller than a region covered by said electrically insulating layer.

how is the opening smaller than the pattern formed?

B1 Cont

65. A method for producing a semiconductor device comprising the steps of:

forming a first electrically insulating layer exposing at least a part of a circuit electrode of a wafer thereon; what?, confusing is the wafer on the electrode?

forming a second electrically insulating layer having a thickness in a range of from 35 to 150 micrometers and including an inclined portion at the edge by printing electrically insulating material including particles by use of a mask; and

different from layer?

forming a wiring on said second electrically insulating layer for electrical connection to said circuit electrode of said wafer.

66. A method for producing a semiconductor device comprising:

a first step of forming an electrically insulating layer on a wafer with a part of a circuit electrode, provided on said wafer, remaining exposed from said electrically insulating layer by printing an electrically insulating material by use of a mask, said electrically insulating layer having an inclined portion at an edge thereof and having a thickness in a range of from 35 to 150 micrometers;

huh?

a second step of forming a wiring over an area extending from a circuit electrode of said wafer to said inclined portion and a flat portion of said electrically insulating layer; and

both?

a third step of forming an external connection terminal on said electrically insulating layer, said external connection terminal being electrically connected with said circuit electrode through said wiring;

wherein said printing includes a process comprising the step of moving a squeegee to the opposing vertex of an opening portion in said mask so

? doesn't make sense

that said electrically insulating layer is formed by printing said electrically insulating material.

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67. A method for producing a semiconductor device comprising:

a first step of forming an electrically insulating layer on a wafer with a part of a circuit electrode, provided on said wafer, remaining exposed from said electrically insulating layer by printing an electrically insulating material by use of a mask, said electrically insulating layer having an inclined portion at an edge thereof and functioning to relax occurrence of stress between said semiconductor device and a circuit board on which the semiconductor device is to be mounted;

extending

a second step of forming a wiring over an area from said circuit electrode of the wafer to said inclined portion and a flat portion of said electrically insulating layer; and

a third step of forming an external connection terminal on said electrically insulating layer, said external connection terminal being electrically connected with said circuit electrode through said wiring,

wherein the step of printing comprises the step of moving the squeegee on a top side to the opposite vertex of the opening portion of the

B1 Cont'd

mask, and forming said electrically insulating layer by printing said electrically insulating material.

this limitation is already cited in the claim.